

Amendments to the Drawings

Attached is a complete set of replacement drawing sheets including amended Fig. 1a, Fig. 1b, Fig. 2f, Fig. 2g, Fig. 4g, Fig. 4h, Fig. 4i and Fig. 5.

REMARKS

In response to the Examiner's objection to the drawings, Applicants are enclosing herewith corrected drawings having the changes requested by the Examiner. Additionally, the specification has been amended in order to reflect the correction to the drawings. No new matter has been added.

In order to respond to the Examiner's rejection of Claim 90 under 35 USC 112, second paragraph, and to more particularly point out and distinctly claim the subject matter which Applicants regard as the invention, the currently pending claims under consideration have been amended. No new matter has been added. It is respectfully submitted that the currently presented claims clearly are cured of all formal defects.

Claims 80-82, 90-94, 98-112 and 124-130 have been rejected under 35 USC 103(a) as being unpatentable over Van der Lingen et al in view of Maier, Jr. Claims 83-89, 95-97 and 103 have been rejected under 35 USC 103(a) as being unpatentable over Van der Lingen et al and Maier, Jr. and further in view of Nordegren et al. Applicants respectfully traverse these grounds of rejection and urge reconsideration in light of the following comments.

The presently claimed invention is directed to a retaining device for the manual removal of teat cups comprising a fastening device for fixing the retaining device at a predetermined milking position. The retaining device is formed to hold each of a multiple number of teat cups in a fixed position relative to the others during a first operational phase and to allow manual access to each of the retained teat cups in such a way that, during a second operational phase, each teat cup is manually movable relative to the retaining device and at least one additional teat cup in more than one direction. The retaining device has a stimulation mechanism that is formed to act mechanically on at least one milk hose that connects a teat cup to the retaining

device during the second operational phase for inciting a rhythmic movement to the teat cup while it is attached to a cow's teat.

The present invention overcomes the problems associated with conventional milking operations in that it utilizes a retaining device having a fastening device which fixes the retaining device in place at a predetermined milking position, allows the movement of a teat cup cluster at the udder in a more efficient manner, in order to structure the milking process in a manner closer to a natural one, avoids uncontrolled movement of flexible connection hoses that connect the teat cup to a milk line where a milk collection container, is capable of providing stimulation to the teat of a cow in order to aid the milking operation and can be formed in such a manner that the risk of the milk hoses coming into contact with the ground is eliminated. It is respectfully submitted that the prior art cited by the Examiner does not disclose the presently claimed invention.

The Van der Lingen et al reference discloses an apparatus for milking livestock which comprises a milking box, a milking robot disposed close to or in the milking box and a holder for receiving therein teat cups which, during use, are arranged on an animal for milking by the milking robot. The Examiner has stated that this reference also discloses a stimulation mechanism, i.e., the robotic arm shown in Figure 1, but does not disclose it using a rhythmic movement. Applicants respectfully submit that the currently claimed invention is clearly further distinguished over this reference. The robotic arm of Van der Lingen is not a stimulation mechanism as required by the present claims since it is not used to provide any mechanical stimulation action nor is suitable to provide mechanical stimulation by acting mechanically on at least one milk hose, or one control hose, that connects a teat cup to the retaining device during the operational phase of the milking device. The robotic arm of Van der Lingen is used to attach the milking cups to the teats of the animal to be

milked. The currently presented claims require that the stimulation device be capable of inciting a rhythmic movement to the teat cup while it is maintained in contact with a cow's teat. The robotic arm of Van der Lingen et al clearly cannot function in this manner. Therefore, the secondary references cited by the Examiner must provide the motivation to one of ordinary skill in the art to modify this reference in a manner that would yield the presently claimed invention. It is respectfully submitted that the secondary references contain no such disclosure.

The Maier, Jr. et al reference discloses a stimulation device for an automatic milking device comprising a plurality of teat cups, a vacuum device for generating a negative pressure required for milking and a stimulation device which can be controlled. However, the device of Maier et al does not function as that of the present invention. In the present invention, the teat cups are stimulated into vibration via mechanical motion transmitted through the hoses and not that vibrations are transferred to the hoses by the milk cup. The Maier reference does not teach the mechanically acting on a milk hose but only teaches the use of a separate control hose or elements on the teat cup to transmit the vibration for the mechanical stimulation. As such, combining the teachings of Maier et al with Van der Lingen et al would not lead one of ordinary skill in the art to the presently claimed invention, particularly in light of the fact that the robot arm of Van der Lingen et al is not adapted to mechanically act on the milk hose and transmit vibration to the teat cups while they are maintained in contact with the teats of a cow. Therefore, it is respectfully submitted that the presently claimed invention clearly is patentably distinguishable over the combination of Van der Lingen et al and Maier, Jr. et al.

The Nordegren et al reference discloses a milking machine system containing a flow rate sensing device, a timing device and a system control means for varying the character of the working and massage vacuums during the milking process, in

response to the rate of milk flow and to time. This reference has been cited by the Examiner as making it obvious to one of ordinary skill in the art to supply the retaining device of Van der Lingen et al and Maier, Jr. et al with the controllable vacuum mechanism of Nordegren et al to more efficiently control pressure losses in the system if a teat cup becomes dislodged. However, this reference does not cure the defects contained with the two previously discussed references with respect to the presently claimed requirement for the manual stimulation and, as such, does not present a showing of prima facie obviousness under 35 USC 103(a) with respect to the presently claimed invention.

The Examiner is respectfully requested to reconsider the present application and to pass it to issue.

Respectfully submitted,

  
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